



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: 300 M STREET, N.E. PATENTS AND TRADEMARKS
PO BOX 1418
Alexandria, Virginia 22303-1418
www.uspto.gov

APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
10 066,329	01 31 2002	Carlo Misiano	22124	9829

535 7590 06 04 2003

THE FIRM OF KARL F ROSS
5676 RIVERDALE AVENUE
PO BOX 900
RIVERDALE (BRONX), NY 10471-0900

EXAMINER

CHEN, BRET P

ART UNIT	PAPER NUMBER
----------	--------------

1762

DATE MAILED: 06 04 2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/066,329

Applicant(s)

MISIANO ET AL

Examiner

B. Chen

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 8-18 is/are withdrawn from consideration
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner
If approved, corrected drawings are required in reply to this Office action
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1. ☒ Notice of References Cited, PTO 892
2. ☐ Interview Summary, PTO 413, Paperwork Reduction Project 97-134
3. ☐ Interview Summary, PTO 413, Paperwork Reduction Project 97-134
4. ☐ Interview Summary, PTO 413, Paperwork Reduction Project 97-134

Art Unit: 1762

DETAILED ACTION

Claims 1-19 are pending in this application.

Election/Restrictions

Applicant's election with traverse of claims 1-7, 19 in Paper No. 6 is acknowledged. The traversal is on the ground(s) that the apparatus cannot be used to practice a materially different process (p.2 lines 1-15 of paper 6 dated 4/8/03). This is not found persuasive because the apparatus can be utilized for a different process such as etching. It should be noted that independent apparatus claim 8 requires a vacuum chamber, a substrate holder, a mechanical shutter, a high energy source for heating, and a means for heating a gas mixture. These are well known components in a semiconductor etching apparatus.

The requirement is still deemed proper and is therefore made FINAL.

Claims 8-18 have been withdrawn from consideration as being directed to a nonelected invention.

Specification

Applicant is reminded of the proper content of an **abstract** of the disclosure

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should be directed to the improvement.

In a process for manufacturing or the like, if the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

Art Unit: 1762

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) **if a process, the steps.**

Extensive mechanical and design details of apparatus should not be given.

It is noted that the claimed invention is directed to a method. The examiner suggests amending the abstract to reflect same.

The **title of the invention** is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

It is noted that the claimed invention is directed solely to a method. The examiner suggests amending the title to reflect same.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7, 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Indefinite - The term "high" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be

Art Unit: 1762

reasonably apprised of the scope of the invention. The same issue applies to "low energy electrons" in line 22. This issue additionally applies to claims 6 and 19.

In line 1 line 22, it is not clear where the low electrons come from. It is noted that the crucible is heated using a high energy beam (step c). Does low energy electrons come from a high energy beam? Clarification is requested.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Morton (4,058,638). Morton discloses a method of depositing an optical film (col.1 lines 6-8) by plasma deposition (lines 37-43) in a vacuum chamber (col.2 lines 38-39). The deposition system includes a substrate support and heating means, an electron beam means, and inlet baffles to insert a gas (col.2 lines 38-60). An RF field is applied on the substrate surface (lines 44-45). A shutter can be utilized (col.3 lines 12-18). However, the reference fails to teach a self-bias

It is well known in plasma deposition that biasing a substrate had advantages such as increased deposition rate and disadvantages such as increased contamination. One skilled in the

The limitations of claims 2-7 and 19 have been addressed above

Art Unit: 1762

Wu et al. (6,045,671), Lowe et al. (6,315,873) and Noshita et al. (6,081,287) have been provided for additional information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to B. Chen whose telephone number is (703) 308-3809. The examiner can normally be reached on 10 hour days.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

bc
June 1, 2003

B. Chen

BREIT CHEN
PRIMARY EXAMINER